

# Notes on a collection of *Dermaptera* from India (Dermaptera)

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## INTRODUCTION.

The present paper is based on a collection of *Dermaptera* from Anamalai Hills. It contains a total of nineteen species out of which one is described as new to science and other two, namely, *Platylabia major* Dohrn and *Labia minor* (Linnaeus) are recorded for the first time from India. Female sex hitherto unknown in *Spongovostox carli* Borelli has been described.

I am thankful to the Director, Zoological Survey of India, Calcutta for providing facilities. My thanks are also due to Mr. P. S. Nathan, Naturalist for sending this interesting material to me.

## SYSTEMIC ACCOUNT.

### PYGIDICRANOIDEA

### PYGIDICRANIDAE

### PYGIDICRANINAE

#### ***Cranopygia eximia* (Dohrn, 1893).**

*Pygidicrana eximia* Dohrn, 1863, *Stettin. ent. Ztg.*, t. XXIV, pág. 49 (♂, Darjeeling).

*Cranopygia eximia* (Dohrn) Hincks, 1959, *Syst. mono. Dermapt. Brit. Mus. (N. H.)*, London, part 2, págs. 100-101, figs. 84-85.

*Material*.—2 ♂ ♂, 1 ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

**Cranopygia raja** (Burr, 1911).

*Kalocramia raja* Burr, 1911, *J. Asiat. Soc. Beng. (N. S.)*, t. VII, pág. 773 (♂, Nilgiri Hills).

*Cranopygia raja* (Burr) Hebard, 1923, *Mem. Dept. Agric. Ind. Ent.*, t. VII, pág. 199.

*Material*.—2 ♂♂, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Remarks*.—This species was hitherto known from Nilgiri Hills and Kodaikanal in South India. Female sex is not yet known.

## DIPLATYIDAE

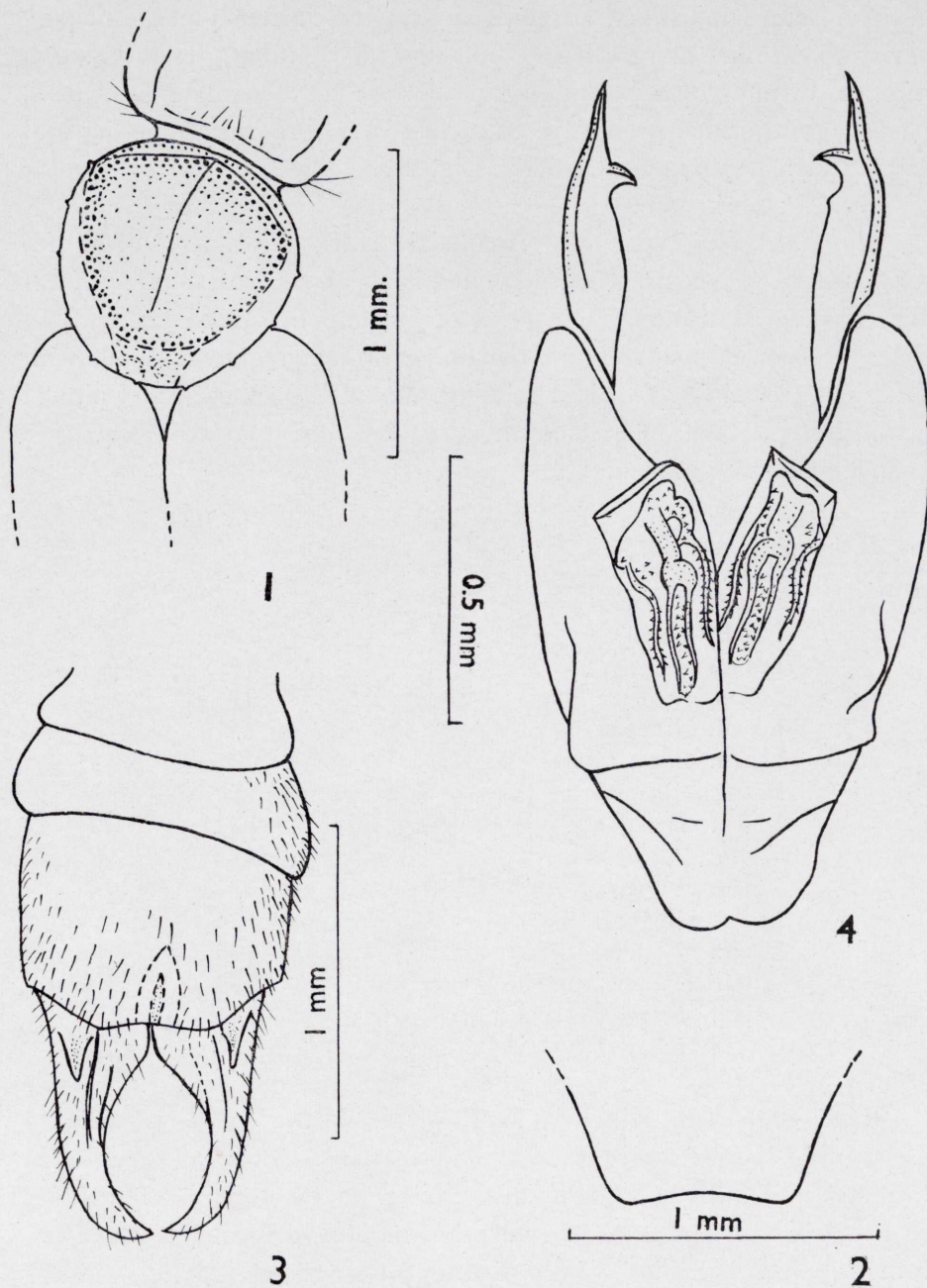
## DIPLATYINAE

**Diplatys anamalaiensis** nov. sp. (figs. 1-4).

Male: Colour: General colour black. Antennae with basal segment black, rest testaceous. Pronotum black with dirty yellow band on sides extending posteriorly, but separated in middle by a black patch. Elytra with a yellow spot at humeral angles and wings with yellow spot at base near sutural margin.

Head triangular, posterior margin sinuate mesad, sutures absent, frons tumid and gradually passing into depressed occiput, post ocular carina distinct, but dying out near posterior margin. Eyes large, about as long as genae and 1st antennal segment. Antennae (broken) only 16 segments left, 1st segment club shaped and equal to 2nd and 3rd together; 3rd long and cylindrical; 4th almost equal to 3rd and a little shorter than 5th, rest long and cylindrical. Pronotum rounded, median suture faint (fig. 1). Legs with femora stout and carinate; tibiae long and cylindrical; tarsi with 1st segment equal to 2nd and 3rd combined. Elytra long, shoulders not very prominent, anal angles rounded off to expose a small, triangular scutellum, posterior margin slightly oblique. Wings about one third of the length of elytra. Abdomen smooth, long and cylindrical, gradually widened from 7th to 9th tergite. Penultimate sternite (fig. 2) with a faint depression in posterior half, caudal margin sinuate. Ultimate tergite (fig. 3) smooth,





Figs. 1-4.—*Diplatys anamalaiensis* nov. sp., ♂: 1) pronotum with portion of head and elytra; 2) posterior margin of penultimate sternite; 3) ultimate tergite and forceps; 4) genitalia.

median suture indistinct, an elliptical and raised area present in posterior third, hind margin feebly sinuate with lateral angles prominent. Forceps with branches contiguous, depressed and dentate near base, then trigonal, ridge present in basal half only, gradually tapering and curved, apices pointed. Genitalia (fig. 4).

Female: Unknown.

*Material*.—Holotype, ♂, Anamalai Hills, Cinchona, 3500 ft., Cap. 68 (P. S. Nathan coll.), deposited in the Zoological Survey of India, Calcutta, 1st antennal segment of left and five basal segments of right present in holotype and remaining broken segments along with four legs (remaining two legs missing) mounted on a card and pinned with the specimen. Genitalia mounted between two coverslips and pinned with the specimen.

#### Measurements:

Length of head	1.58 mm.
Width of head	1.85 "
Length of eye	0.51 "
Distance between eyes	0.91 "
Length of genae	0.45 "
Length of 1st antennal segment	0.45 "
Distance between the bases of antennae	0.62 "
Length of pronotum	1.42 "
Width of pronotum	1.42 "
Length of elytra	3.36 "
Length of wing	1.14 "
Length of ultimate tergite	1.36 "
Width of ultimate tergite	1.53 "
Length of body (without forceps)	11.45 "
Length of forceps	1.25 "

*Remarks*.—With Hincks' (1955, p. 96) key to males of *Greeni-Group* this species comes close to *Diplatys fallax* Borelli known from Sumatra and Malaya but differs in having the pronotum rounded and in the details of structure of genitalia especially the inner tooth of parameres which is hooked with a distinct concavity below it; distal lobes much smaller than parameres; virga with a straight, chitinous and denticulate rod on either side of a median inverted u-shaped rod.



## LABIOIDEA

## CARCINOPHORIDAE

## BRACHYLABINAE

**Metisolabis bifoveolata** (Bolívar, 1897) (figs. 5-6).

*Brachylabis bifoveolata* Bolívar, 1897, *Ann. Soc. ent. Fr.*, t. LXVI, página 285, lám. 10, fig. 1 (♂; Madras Presidency).

*Metistlabis bifoveolata* (Bolívar) Burr, 1910, *Fauna Brit. India, Dermaptera*, London, pág. 108.

*Ctenisolabis bifoveolata* (Bolívar) Burr, 1911, *J. Asiat. Soc. Beng. (N. S.)*, t. VII, págs. 780-781

*Metisolabis bifoveolata* (Bolívar): Hebard, 1923, *Mem. Dept. Agric. Ind. Ent.*, t. VII, pág. 213.

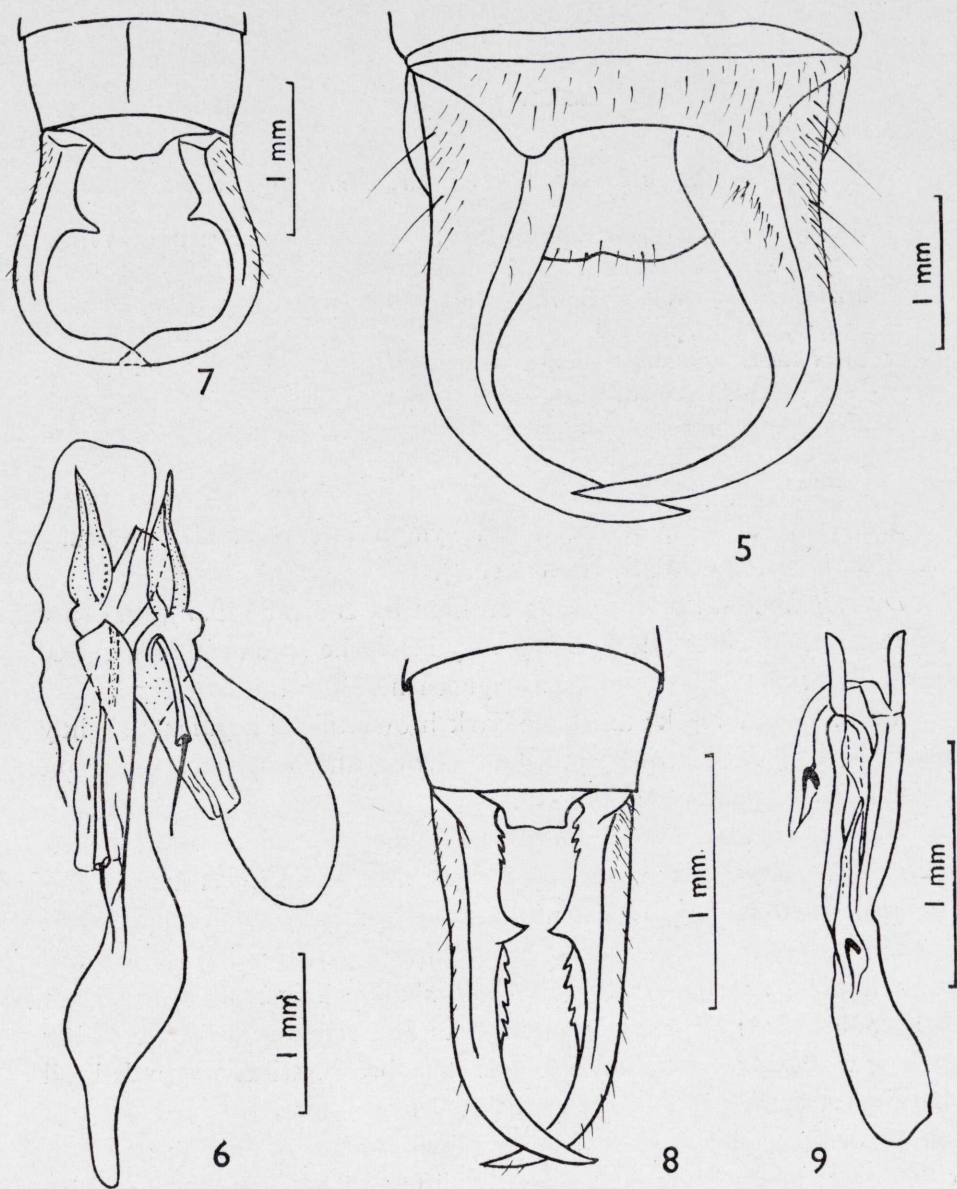
*Material*.—5 ♂♂, 2 ♀♀ and 1 nymph, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Description*.—The original description by Bolívar (1937), and subsequent one by Burr (1910) being very brief, the species is redescribed below in detail. The genitalia is figured here for the first time.

Male: Colour black; antennae dark brown, distal segments slightly blackish; legs dark brown; punctate all over the body except forceps, golden yellow pubescence present.

Head triangular, caudal margin straight, frons tumid, sutures distinct. Eyes large, black, slightly longer than cheeks. Antennae 14-segmented, stout, basal segment narrowed at base, and expanded at apex, long, equal to segments 2nd to 5th together; 2nd small; 3rd twice as long as broad; 4th long, only slightly longer than broad but shorter than 3rd; 5th slightly longer than 3rd, rest gradually increasing in length distally. Pronotum longer than broad, widened caudad, all margins straight, sides slightly raised, caudal angles rounded, median suture distinct, with a pair of longitudinal patches of smooth areas on either side; prozona and metazona not differentiated. Mesonotum with keels laterally, strongly curving posteriorly, hind margin subtruncate. Metanotum transverse, concave posteriorly. Abdomen strongly convex, narrowed anteriorly and posteriorly, dilated in middle, lateral tubercles on 3rd tergite blunt and weakly developed; a smooth rounded patch below these folds present on 4th tergite, sides of segments rounded.

Ultimate tergite (fig. 5) sloping, strongly transverse, sides straight, posterior margin concave with an obtuse tubercle above roots of for-



Figs. 5-9.—*Metisolabis bifoveolata* (Bolívar), ♂ : 5) ultimate tergite and forceps ; 6) genitalia. *Platylabia major* Dohrn : 7) ultimate tergite and forceps of ♂ ; 8) ultimate tergite and forceps of ♀ ; 9) ♂ genitalia.

ceps, the portion above the bases of forceps oblique and feebly concave. Penultimate sternite triangular, punctate, posterior margin with a trian-



gular incision mesad; manubrium about as long as the penultimate sternite, narrowed at apex. Forceps with branches remote and somewhat dilated at base, tapering, apices pointed and meeting or crossing each other, strongly curved or less so. Genitalia (fig. 6).

Female: Agrees with male in most characters except penultimate sternite with posterior margin rounded and forceps less curved with inner margin at base crenulate.

Measurements (in mm.):

Body parts	Range 5 ♂ ♂	Range 2 ♀ ♀
Length of head	2.06 — 2.40	2.32 — 2.58
Width of head	1.72 — 1.97	1.87 — 1.97
Length of eye	0.68 — 0.77	0.68 — 0.77
Length of cheek	0.51 — 0.68	0.51 — 0.58
Length of pronotum	2.49 — 2.94	2.75 — 3.01
Width of pronotum	1.93 — 3.01	2.94 — 2.66
Length of ultimate tergite	0.43 — 0.51	0.43 — 1.03
Width of ultimate tergite	3.01 — 2.40	2.58 — 3.22
Length of body (without forceps)	13.50 — 15.00	15.00 — 16.00
Length of forceps	2.23 — 3.00	2.40 — 2.66

*Remarks.*—Originally described from Madras, the species has subsequently been recorded from Tiruchirapalli, Madura dist. (Shembaganur), Kodaikanal, Anamalais (Valparai, Nadur-Estate) and Palnis (Maryland, Tigershola, 1600 ft.).

#### PLATYLABINAE

##### *Platylabia major* Dohrn, 1867 (figs. 7-9).

*Platylabia major* Dohrn, 1867, *Stettin. ent. Ztg.*, t. XXVIII, pág. 347 (♀, Celebes).

*Material.*—1 ♂, 1 ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968. (P. S. Nathan coll.).

*Remarks.*—Boeseman (1954) has noted distinct variability in female forceps and wings. The specimen before me are fully winged and agree well with Burr's description (1910, p. 68) of *Palex sparattoid*

(Bormans), a synonym of this species. Ultimate tergite, forceps of male and female and male genitalia have been figured (figs. 7-9).

Originally described from Celebes it has since been known to occur in Burma, Vietnam (Annam), Indonesia, Penang, Sumatra, Java, Borneo, Philippines Is., and China. It is recorded for the first time from India.

#### CARCINOPHORINAE

##### **Paralabis greeni** (Burr, 1899).

*Anisolabis greeni* Burr, 1899, *Ann. Mag. Nat. Hist.*, t. VII, pág. 257 (♂, ♀, Punduloya, Ceylon).

*Borellia greeni* (Burr) Burr, 1910, *Fauna Brit. India, Dermaptera*, London, págs. 87-88.

*Euborellia greeni* (Burr) Burr, 1914, *Rev. Ind. Mus., Calcutta*, t. X, página 285.

*Paralabis greeni* (Burr) Burr, 1915, *J. R. Micr. Soc., London*, 1915, página 540.

*Material*.—2 ♀ ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

##### **Epilabis sisera** (Burr, 1914).

*Euborellia sisera* Burr, 1914, *Rec. Ind. Mus., Calcutta*, t. X, pág. 286 (♂, Anamalai Hills, S. India).

*Epilabis sisera* (Burr) Burr, 1915, *J. R. Micr. Soc., London*, 1915, pág. 539.

*Material*.—3 ♂ ♂, 2 ♀ ♀, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

*Remarks*.—A very distinct species by the presence of a cavity on the head of males.

Originally described from Anamalai Hills it has since been reported from Nilgiris (Hill groove and Coonoor) also.

#### LABIIDAE

##### SPONGIPHORINAE

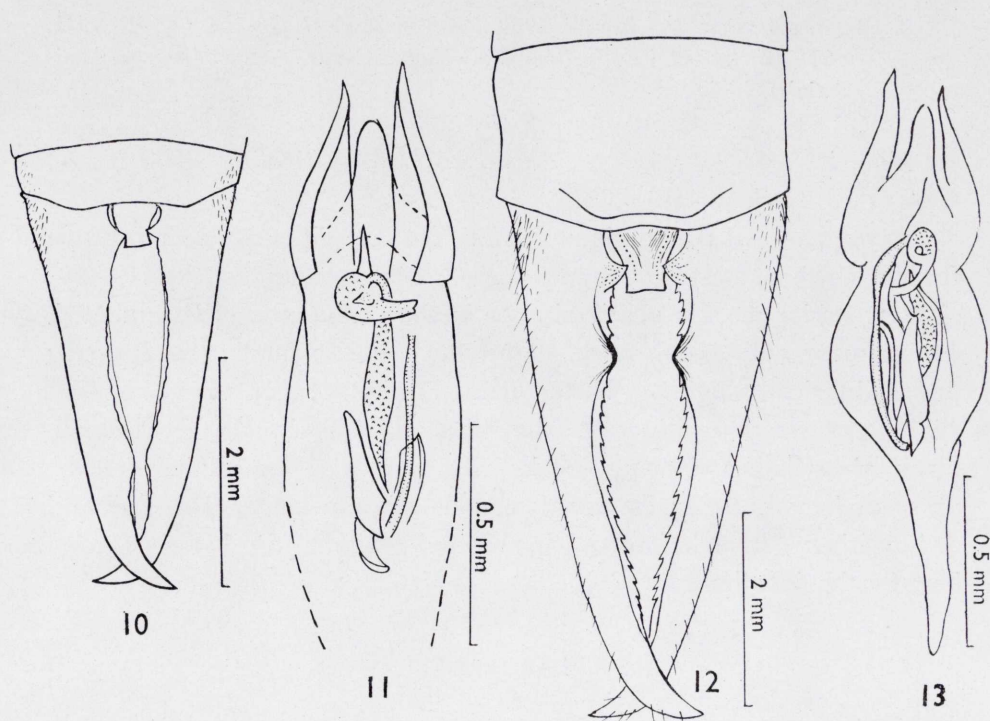
##### **Spongovostox carli** Borelli, 1931 (figs. 10-11).

*Spongovostox carli* Borelli, 1931, *Rev. suisse Zool., Genève*, t. XXXVIII, pág. 303, figs. 10-11 (♂, Attakatti, Anamalais (nec Anaimalais), India).



*Material*.—3 ♂♂, 1 ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Remarks*.—Hitherto this species was known by its holotype (♂) only. The 3 ♂♂ before me agree well with the original description, but genitalia (fig. 11) differs from that of Borelli's (1931, fig. 11) figure of genitalia by the absence of numerous minute teeth on the preputial sacs and in the details of structure of various chitinous plates.



Figs. 10-13.—*Spongovostox carli* Borelli: 10) ultimate tergite and forceps of ♀; 11) ♂ genitalia. *S. escheri* Borelli: 12) ultimate tergite and forceps of ♀; 13) ♂ genitalia.

Antennae 16-segmented, 1st segment almost equal to 2nd to 4th together; 2nd small; 3rd long & cylindrical; 4th also long & cylindrical but shorter than 3rd; 5th about as long 3rd, and rest long and cylindrical, a few distal segments very thin and rod shaped. Eyes black and small, about half as long as cheeks. In one male specimen the forceps are asymmetrical in having the left branch smaller than the right one probably due to injury.

Female sex so far unknown in the species is described below.

♀: Agrees with male in most characters except that the ultimate

tergite (fig. 10) gently narrowed caudad, pygidium truncate at posterior margin. Forceps at base with an inner triangular, acute tooth, bent ventrally, another obtuse tubercle at apical third also, inner margin provided with minute teeth throughout.

***Spongovostox escheri* Borelli, 1931 (figs. 12-13).**

*Spongovostox escheri* Borelli, 1931, *Rev. suisse Zool. Genève*, t. XXXVIII, pág. 305, fig. 12 (♂, ♀, Valparai, Nadur-Estate, Anamalais (nec Anaimalais), India).

*Material*.—4 ♂♂, 4 ♀♀, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

*Remarks*.—All the specimens before me are wingless excepting one female which possesses normal wings. Head triangular, sutures obsolete, posterior margin gently sinuate mesad. Antennae 18-segmented, 1st segment cylindrical, very slightly expanded distally; 2nd small; 3rd cylindrical, slightly shorter than 1st but longer than 4th; 5th slightly longer than 4th, rest long, thin and cylindrical. Eyes small, black, about half as long as cheeks. Legs clear yellow, tibiae slender, about as long as tarsi; 1st tarsal segment slightly longer than 2nd and 3rd together. Female forceps (fig. 12) and genitalia (fig. 13) are figured here for the first time.

LABIINAE

***Labia minor* (Linnaeus, 1758).**

*Forficula minor* Linnaeus, 1758, *Syst. Nat.* (ed. 10th), t. I, pág. 423 (Europe).

? *Foricula livida* Zschach, 1788, *Mus. Lesk.*, pág. 46.

*Labia minuta* Scudder, 1862, *Boston J. nat. Hist.*, t. VII, pág. 415.

*Labia minor* (Linnaeus): Brunner, 1882, *Prod. Eur. Orth.*, 10, t. I, figura 3 A-C.

*Material*.—1 ♂, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

*Remarks*.—The specimen before me is having the head, pronotum, elytra and wings black. Abdomen testaceous brown with traces of black only in apical half. Forceps and pygidium dark brown. Pygidium transverse, convex, vertical, apical margin straight.



A very widely distributed species which is, according to Burr (1911), recorded from "Europe, North Asia, Africa, North America and Argentina". Hincks (1952) records it from Sierra Leone. It has hitherto not been recorded from India.

## FORFICULOIDEA

### LABIDURIDAE

#### LABIDURINAE

#### ***Labidura riparia* (Pallas, 1773).**

*Foricula riparia* Pallas, 1773, *Reise Russ. Reichs.*, pt. 2, pág. 727 (Shores of Irtysh River, Western Siberia).

*Material*.—1 ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Remarks*.—A cosmopolitan species extremely variable in colour, etc. Brindle (1966) has given the complete synonymy of the species.

#### ***Forcipula decolyi* Bormans, 1900.**

*Forcipula decolyi* Bormans, 1900, *Ann. Mus. Stor. nat. Genova*, t. XX, página 444 (♂, ♀, Haveri, British New Guinea).

*Forcipula clavata* Liu, 1946, *Jl. w. China Border Res. Soc.*, t. XVI, página 22.

*Material*.—2 ♂♂, 1 nymph, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Remarks*.—The specimens before me are jet black, legs dull testaceous brown, femora shaded with black distally. Pronotum somewhat quadrat, apical and basal margins convex, sides straight with very slight emargination in middle, median suture faint and on either side of it, two semicircular depressions present near the apical margin; prozona tumid and well differentiated from flat metazona. Elytra short, microscopically pitted, posterior margin slightly oblique, anal angles rounded, thus exposing a small triangular scutellum. Pygidium with a pair of minute, ventrally directed tubercles posteriorly.

Bey-Bienko (1959) has placed *Forcipula clavata* Liu as the synonym of this species, whereas Brindle (1966) has treated these two as separate without assigning any reason.

In India this species has been recorded from Assam, Bengal and Madras.

Also known from Bhutan, Sikkim, Nepal, Vietnam and New Guinea.

### ***Forcipula quadrispinosa* (Dohrn, 1863).**

*Labidura quadrispinosa* Dohrn, 1863, *Stettin. ent. Ztg.*, t. XXIV, pág. 311 (Tranqubar, India; Ceylan).

*Labidura morosa* Kirby, 1891, *J. Linn. Soc. London*, t. XXIII, pág. 513.

*Forcipula jacobsoni* Burr, 1908, *Ann. Mag. Nat. Hist.*, t. I, pág. 47.

*Forcipula quadrispinosa* (Dohrn): Burr, 1910, *Fauna Brit. India, Dermaptera*, London, pág. 94, fig. 28.

*Material*.—4 ♂♂, 2 ♀♀, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

### ALLOSTETHINAE

### ***Allostethus anamalayanus* Ramamurthi, 1968.**

*Allostethus anamalyanus* Ramamurthi, 1968. *Zool. Anz., Leipzig*, tomo CLXXXI, pág. 133 (♂, ♀; Anamalai Hills, India).

*Material*.—3 ♂♂, 3 ♀♀, and 2 nymphs, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

*Remarks*.—Out of three males before me, in two specimens the left arm of forceps is smooth at inner margin and possesses a concavity near the base, whereas the right branch is having small tubercles all along the inner margin and in remaining one specimen it is just opposite.

### ***Gonolabidura nathani* Brindle, 1965.**

*Gonolabidura nathani* Brindle, 1965, *Ann. Mag. Nat. Hist.*, t. VIII, página 594 (♂, Coimbatore Dist., A. Valapara; ♀, Anamalai Hills, Cinchona, South India).

*Material*.—3 ♂♂, 3 ♀♀, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).



**Gonolabidura minor** Burr, 1914.

*Gonolabidura minor* Burr, 1914, *Rec. Ind. Mus., Calcutta*, t. X, pág. 284 (♂, Anamalai Hills, S. India).

*Material*.—2 ♂♂, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

## CHELISOCHIDAE

**Adiathetus tenebrator** (Kirby, 1891).

*Chelisothes tenebrator* Kirby, 1891, *J. Linn. Soc., London*, t. XXIII, página 521, lám. 12, fig. 5 (♀, India).

*Adiathetus tenebrator* (Kirby) Burr, 1910, *Fauna Brit. India, Dermaptera*, London, pág. 146.

*Material*.—2 ♂♂, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

## FORFICULIDAE

## FORFICULINAE

**Forficula greeni** (Burr, 1903).

*Chelisothes pulchellus* Burr (nec-Gerst.), 1903, *J. Bombay Nat. Hist. Soc.*, t. XIV, pág. 327 (♂, ♀; Punduloya and Ambegammoa, Ceylon).

*Forficula greeni* Burr, 1907, *Trans. Ent. Soc., London*, págs. 115-116.

*Material*.—1 ♀, Anamalai Hills, Cinchona, 3500 ft., V.1968 (P. S. Nathan coll.).

*Remarks*.—This female specimen agrees well with the description of Burr (1910). Originally described from Ceylon it has since been recorded from various localities in India, also.

## OPISTHOCOSMIINAE

**Eparchus insignis** (Haan, 1842).

*Forficula insignis* Haan, 1842, *Verh. Nat. Gesch. Nederl. Overz. Bezitt., Orth.*, pág. 243, lám. 23, fig. 14 (♂, ♀; Java).

*Eparchus insignis* (Haan) Burr, 1910, *Fauna Brit. India, Dermaptera, London*, págs. 192-193, lám. 10, fig. 99.

**Material.**—3 ♂♂, 3 ♀♀, Anamalai Hills, Cinchona, 3500 ft., V. 1968 (P. S. Nathan coll.).

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